

A Second Species of *Haustellotyphis* (Gastropoda: Typhidae) from Costa Rica

by

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Abstract. A new species, *Haustellotyphis wendita*, superficially resembling *Haustellotyphis cumingii* (Broderip, 1833), but with differences in protoconch characters and subtle sculptural details is described from the Pacific coast of Costa Rica. The new species is compared with *H. cumingii*, and SEM photographs of the radulae are shown.

INTRODUCTION

Three specimens of a species resembling *Haustellotyphis cumingii* (Broderip, 1833) from the Pacific coast of Costa Rica were brought to my attention by Robert Koch of Phoenix, Arizona (Hertz, 1990). These specimens were collected dead at Bahía Tamarindo, Guanacaste Province, and Bahía Drake, Puntarenas Province, along with typical specimens of *H. cumingii*.

In 1993, it became apparent that there were two distinct species when Robert Koch collected 24 additional specimens of *Haustellotyphis* at Bahía Tamarindo. Twenty specimens, at least seven of which were collected alive, shared the characters of the species resembling *H. cumingii*. The other four specimens are typical *H. cumingii*. A search of the collections of the Santa Barbara Museum of Natural History, the San Diego Natural History Museum, and the Los Angeles County Museum of Natural History revealed no additional specimens of the new species.

Institutional abbreviations are as follows: AMNH, American Museum of Natural History; ANSP, Academy of Natural Sciences of Philadelphia; CAS, California

Academy of Sciences; LACM, Los Angeles County Museum of Natural History; SBMNH, Santa Barbara Museum of Natural History; SDNHM, San Diego Natural History Museum; USNM, National Museum of Natural History, Smithsonian Institution.

SYSTEMATICS

TYPHIDAE Cossmann, 1903

Haustellotyphis Jousseaume, 1880

Type species: *Typhis cumingii* Broderip, 1833, by original designation.

Haustellotyphis wendita Hertz, sp. nov.

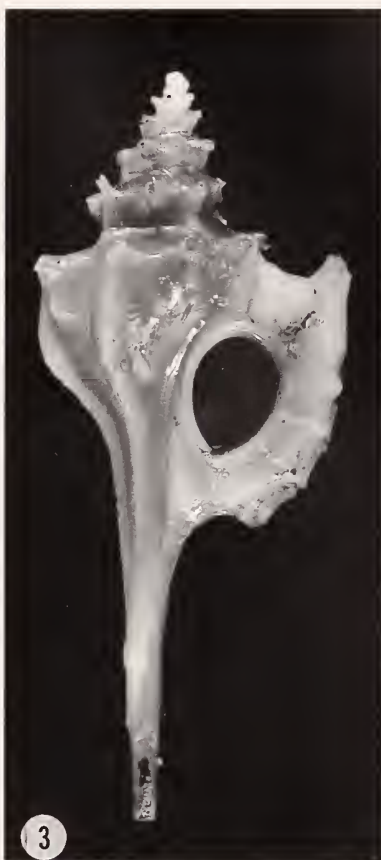
(Figures 1-4, 7, 9-10)

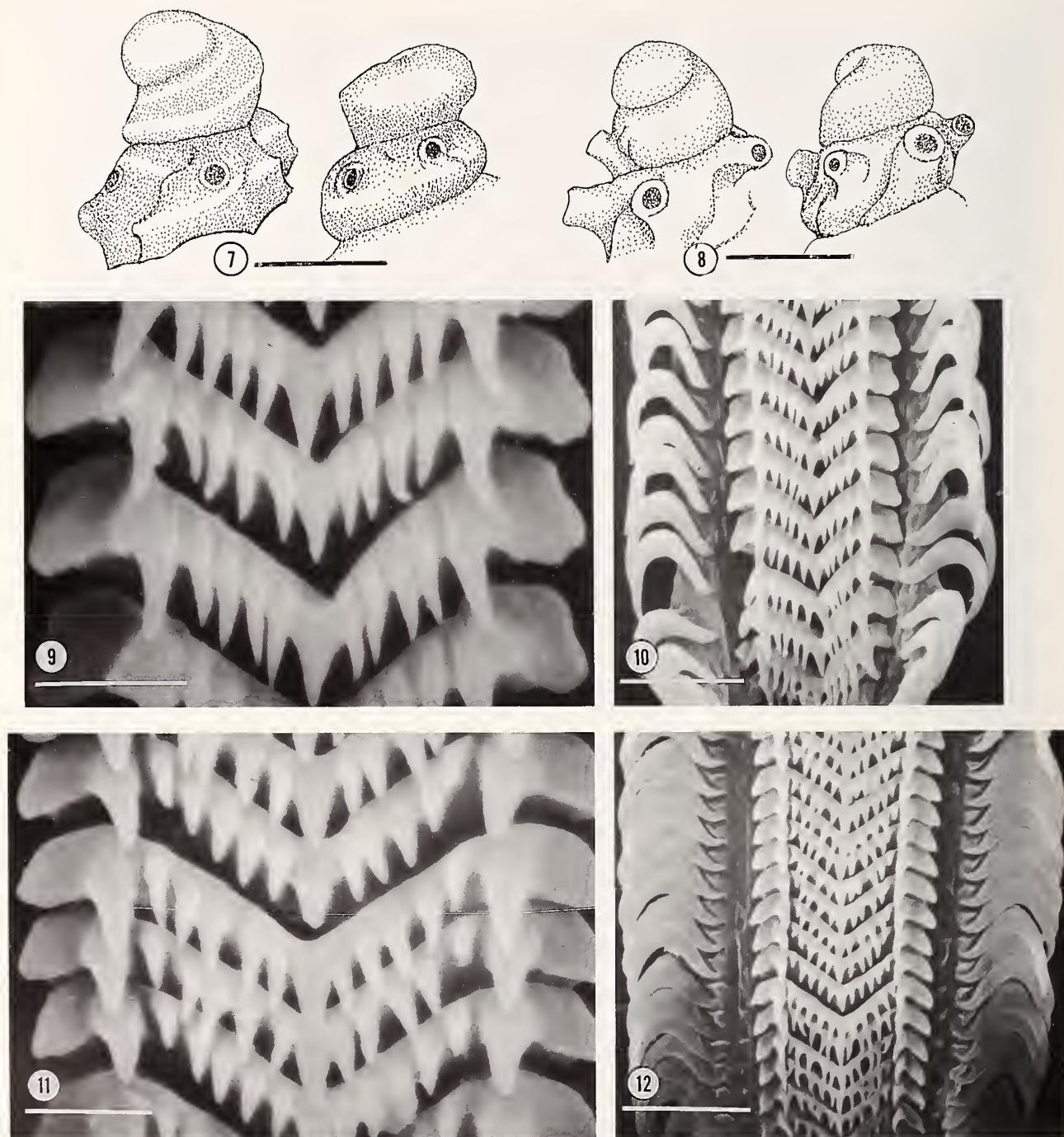
Description: Holotype 17.9 mm long, approximately 7 mm in diameter, excluding spines; protoconch of $2\frac{1}{4}$ smooth, off-white, angulate whorls, teleoconch of $4\frac{1}{2}$ whorls. Whorls with four varices; tubes beginning on first whorl of teleoconch on leading side of varical margin, three per whorl, tube openings round, area below tubes swollen. Shoulder well defined. Spines long where not broken, and flaring, apertural spine very long with partition. Siphonal canal long, straight, closed. Aperture entire, erect with projecting

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Figures 1-6

Figures 1, 2. *Haustellotyphis wendita* Hertz, sp. nov. Holotype SBMNH 142119. Length 17.9 mm, width approximately 7 mm. Figures 3, 4. *Haustellotyphis wendita* Hertz, sp. nov. Paratype AMNH 226509. Length 20.7 mm, width approximately 9 mm. Figures 5, 6. *Haustellotyphis cumingii*, 21.8 mm long, approximately 9 mm wide. S. of Santa Cruz, Nayarit, Mexico in 6-18 m in mud. December 1978. Leg. Carol & Paul Skoglund.





Figures 7-12

Figure 7. *Haustellotyphis wendita* Hertz, sp. nov. Two views of angulate protoconch. Scale bar = 500 μ m. Figure 8. *H. cumingii*. Two views of rounded protoconch. Scale bar = 480 μ m. Figures 9, 10. *H. wendita* Hertz, sp. nov. SEM photographs of radula of holotype, (9) closeup of three teeth. Scale bar = 10 μ m. (10) view of ribbon. Scale bar = 25 μ m. Figures 11, 12. *H. cumingii*. SEM photographs of radula of specimen photographed in Figures 5 & 6. (11) closeup of five teeth. Scale bar = 10 μ m. (12) view of ribbon. Scale bar = 34 μ m.

peristome. Varices on body whorl with three to five faint raised spiral threads fading out intervarically; some intervarical areas completely lacking any hint of spiral threads; no nodes on varices. Apertural varix flaring, showing new growth, spiral cords on new growth somewhat raised and open, apertural spine closed. Radula with four denticles on either side of central cusp. Operculum corneous, leaf-shaped with concentric rings and terminal nucleus. Shell glossy brown with off-white to cream apertural spine and partition; protoconch and first teleoconch whorl glossy white.

Type locality: Off Playa Tamarindo, Bahía Tamarindo, Guanacaste Province (approx. 11°42'N, 85°50'W), dredged in 6–15 meters and Río Sierpe, Bahía Drake, Puntarenas Province (approx. 9°10'N, 83°40'W) dredged in 9–24 meters, both sites in Costa Rica.

Type material: Twenty-one specimens collected by Robert Koch on 6 & 8 March 1993 and 18 February 1988 from off Playa Tamarindo, Bahía Tamarindo, Guanacaste Province and two specimens from Río Sierpe, Bahía Drake, Puntarenas Province on 4 & 5 February 1979. Holotype: SBMNH 142119; Paratypes: 1 specimen SBMNH 142120; 2 specimens AMNH 226509; 2 specimens ANSP 398306; 2 specimens CASIZ 099054; 2 specimens LACM 2744; 2 specimens USNM 887134; 1 specimen, private collection of Carol Skoglund of Phoenix, Arizona; 1 specimen, private collection of the author (all from Tamarindo); 9 specimens Koch collection (7 from Tamarindo and 2 from Bahía Drake).

Distribution: *Haustellotyphis wendita* is known only from Playa Tamarindo, Bahía Tamarindo, Guanacaste Province, and Río Sierpe, Bahía Drake, Puntarenas Province, Costa Rica.

Discussion: Specimens of *H. wendita* studied ranged from juvenile specimens of less than 5 mm in length with two teleoconch whorls to mature specimens of five teleoconch whorls attaining a length of 22.8 mm. For comparison, nine specimens of *H. cumingii* from the Koch collection from Costa Rica and 19 specimens from the Skoglund collection from various localities in Mexico were examined (Figures 5, 6). These specimens have three to 5¾ teleoconch whorls and range in length from 6.0 to 22.6 mm. Several consistent differences were noted. All specimens of *H. cumingii* have a rounded protoconch of 1¾ whorls (Figure 8), whereas *H. wendita* has an angulate protoconch of 2¾ whorls (Figure 7). In specimens of *H. cumingii* (Figures 5, 6) the spines on the final whorl are posteriorly directed, whereas in *H. wendita* they flare out. The varices of *H. wendita* have faint raised spiral threads, whereas

the varical sculpture in *H. cumingii* is of strong, raised cords.

The central tooth of the radula of the holotype of *H. wendita* has five denticles on either side of its central cusp (Figures 9, 10), whereas the central tooth from a specimen of *H. cumingii* was found to have six denticles on either side of the central cusp (Figures 11, 12). However, Radwin & D'Attilio (1976:fig. 141) and Thiele (1931:fig. 318) show the radula of *H. cumingii* with four denticles on either side of the central tooth. As was shown in D'Attilio & Hertz (1988) there is considerable variation in radulae in the typhids, even on the ribbon of a single specimen in some species.

Specimens of *H. wendita* were found at two localities in Costa Rica approximately 300 km apart. At both locations *H. cumingii* was also found. *H. cumingii* also has a distribution from Acapulco, Oaxaca, Mexico, to Guayaquil, Ecuador (Keen, 1971), and north to Manzanillo, Colima, Mexico (Radwin & D'Attilio, 1976).

Etymology: It is with great pleasure that this new species is named in honor of Wendy Koch, who along with her husband, Robert, dredged the specimens of this new species.

ACKNOWLEDGMENTS

David K. Mulliner took the photographs of the specimens figured; Hugh Bradner took the SEM photographs, and Joyce Gemmell did the drawings of the protoconchs of the two species. My gratitude to them for their considerable help. Carol Skoglund generously lent comparative material from her collection, and James H. McLean and Emily H. Vokes kindly reviewed a draft of the manuscript and gave very helpful suggestions for which I thank them. Most of all I am indebted to Robert Koch for giving me the opportunity to describe this new species.

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